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EXAMINER

VO, NGUYEN THANH

ART UNIT PAPER NUMBER

2618

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/626,062

Applicant(s)

KHOINI-POORFARD, RAMIN

Examiner

Nguyen T. Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-2, 4-18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-41 of copending Application No. 10/626,063. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-41 of the above copending Application No. 10/626,063 disclose all the claimed limitations in claims 1-2, 4-18 of the present application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4-6, 8-9, 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (5,793,817, cited by examiner) in view of Talwalkar (US 2004/0146118 A1, cited by examiner).

As to claims 1, 9, Wilson discloses in figure 4 a radio frequency (RF) upconverter with carrier feedthrough cancellation (see column 5 lines 26-36) comprising an upconverter core (see the upconverters 28 and 30) having a first input terminal (see nodes 24, 26) for receiving a first signal having predetermined spectral content at an input frequency and an output terminal for providing an output signal (see the output signal the mixers 28, 30) having substantially said predetermined spectral content at a higher frequency using a local oscillator signal having a carrier frequency (see the local oscillator 32); an electrical measurement circuit (see the feedback circuit with the detector 39) having an input terminal coupled to said output terminal of said upconverter core, and a first output terminal (see the signal outputted from block 64) for providing a first offset correction signal representative of a power of said output signal at said carrier frequency; and a first summing device 68 having a positive input terminal for receiving a first input signal, a negative input terminal coupled to said first output terminal of said electrical measurement circuit, and an output terminal coupled to said first input terminal of said upconverter core for providing said first signal. See also column 5 line 13 to

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column 6 line 38. Wilson fails to disclose a storage element for receiving and storing the first offset correction signal during a calibrated period, wherein the storage element provides the first offset correction signal to the negative input terminal of the first summing device during an operate period as claimed. Talwalkar discloses a storage element 155 for receiving and storing the first offset correction signal during a calibrated period (see paragraphs [0007], [0023]-[0026]), wherein the storage element provides the first offset correction signal to the negative input terminal of a first summing device 105 during an operate period (see paragraphs [0007], [0023]-[0026]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Talwalkar to Wilson, in order to correctly suppress the carrier feedthrough (as suggested by Talwalkar at paragraphs [0007] and [0026]).

As to claims 4, 13, Wilson discloses a quadrature upconverter core as claimed (see figure 4).

As to claims 5, 16, Wilson discloses a first mixer 28; a second mixer 30; a phase shifter 34 and a summing device (see node 35).

As to claims 6, 14, Wilson discloses a second offset correction (see the output of block 66); a second summing device 70 as claimed (see figure 4). See also a second summing device 106 in Talwalkar.

As to claim 8, the correction circuit 155 in Talwalkar reads on first and second storage elements as claimed because the circuit 155 determines and stores offset correction signals for both inphase and quadrature components (see paragraphs [0026], and figures 3-8).

As to claim 12, Wilson discloses converting baseband to RF (see figure 4; column 1 lines 8-17).

As to claim 15, it is rejected for similar reasons as set forth in claim 1 above. In addition, Wilson discloses a second offset correction as claimed (see the output of block 66), and subtracting the second offset correction signal from a quadrature input signal as claimed (see numeral 70). In addition, the correction circuit 155 in Talwalkar reads on first and second storage elements as claimed because the circuit 155 determines and stores offset correction signals for both inphase and quadrature components (see paragraphs [0026], and figures 3-8).

5. Claims 2, 7, 10-11, 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson in view of Talwalkar as applied to claims 1, 9, 15 above and further in view of Harman (5,033,110, cited by examiner).

As to claims 2, 7, 10, 17-18, Wilson as modified by Talwalkar does disclose a first mixer 56 as claimed. Wilson, however, fails to disclose an integrator as claimed. Harman discloses such an integrator 44 in a feedback circuit of a transmitter (see figure 1, column 3 lines 51-55; column 4 lines 11-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Harman to Wilson, in order to further reduce the DC offset in the transmitter (as suggested by Harman at column 4 lines 11-16 and lines 27-36).

As to claim 11, first of all the rejection to claim 2 as set forth above is herein incorporated. In addition, Harman further discloses converting IF to RF (see figure 1).

Response to Arguments

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6. Applicant's arguments with respect to claims 1-2, 4-18 have been considered but are moot in view of the new ground(s) of rejection.

Since a Terminal Disclaimer has not been filed by applicant, the Double Patenting rejection to claims 1-2, 4-18 is now repeated in this action. It should be noted that the application will not be in condition for allowance if a Terminal Disclaimer is not filed.

Applicant's attention is directed to the rejection above for the reasons as to why the amended claims 1-2, 4-18 are not allowed over the applied references.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

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8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Turney (5,584,059) discloses DC offset reduction in a zero IF transmitter.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T. Vo whose telephone number is (571) 272-7901. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nguyen Vo


12-2-2006

NGUYEN T. VO
PRIMARY EXAMINER